REMARKS

The amendments to the specification herein make the specification consistent with the Examiner's request to remove the graphs from the specification and provide these graphs as figures instead. Additionally, some additional text is included herein for further clarification of the new figures.

Applicants believe that there are no fees due in connection with the filing of this Supplemental Amendment. However, in the event that any fees are due, please charge Deposit Account No. 19-1970.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

The following paragraphs have been inserted at page 7, after line 18:

Fig. 4 and 5 illustrate baited trap and unbaited trap discovery time by termites in Example 1.

Fig. 6 illustrates baited trap discovery time by termites in Example 2.

Fig. 7 illustrates total cardboard consumed by termites in baited traps in Example 2.

Fig. 8 illustrates baited trap discovery time by termites in Example 3.

Fig. 9 illustrates total cardboard consumed by termites in baited traps in Example 3.

Fig. 10 illustrates baited trap discovery time by termites in Example 4.

Fig. 11 illustrates total cardboard consumed by termites in baited traps in Example 4.

Fig. 12 illustrates number of positive traps in Example 5.

Fig. 13 illustrates wood consumed in Example 5.

Fig. 14 illustrates baited trap discovery time in Example 5.

Fig. 15 illustrates number of positive traps in Example 6.

Fig. 16 illustrates wood consumed in Example 6.

Fig. 17 illustrates baited trap discovery time in Example 6.

Fig. 18 illustrates number of positive traps in Example 7.

Fig. 19 illustrates wood consumed in Example 7.

Fig. 20 illustrates baited trap discovery time in Example 7.

Fig. 21 illustrates number of R. tibalis recovered in bioassays of Example 8.

Fig. 22 illustrates number of R. virginicus recovered in bioassays of Example 8.

Fig. 23 illustrates CO_2 concentration in bioassays of Example 8.

Fig. 24 illustrates number of positive traps in Example 9.

Fig. 25 illustrates number of positive traps in Example 10.

Fig. 26 illustrates number of positive traps in Example 11.

Fig. 27 illustrates termite response for R. flavipes in Example 12.

Fig. 28 illustrates termite response for R. tibalis in Example 12.

Fig. 29 illustrates termite response for R. virginicus in Example 12.

Fig. 30 illustrates a first response in Example 12.

Fig. 31 illustrates area eaten for different types of wood in Example 14.

Fig. 32 shows a graph of the area eaten by termites in Example 15.

Fig. 33 shows a graph of the number of termites near treated Dow wood, near untreated Dow wood, and between the two pieces of wood (i.e., or middle area).

Fig. 34 illustrates a glass bead bioassay apparatus with candidate chemical cues in shell vials, and in particular, a bioassay apparatus using shell vials as chemical sources for Example 18 of the Detailed Description.

Fig. 35 illustrates a choice-test bioassay with a germinating corn seed versus air, and in particular, the number of western corn root worm (WCR) larvae attracted to a germinating corn seed versus air as described in Example 18 of the Detailed Description. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 36 illustrates a choice-test bioassay with cut corn roots (0.34 grams) versus air, and in particular, the number of western corn root worm larvae attracted to cut corn roots versus air in Example 18. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 37 illustrates CO_2 concentrations (measured with GC-MS-SIM) of germinating corn seed and air in shell vials for Example 18 of the Detailed Description. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 38 illustrates concentrations of CO_2 (measured with gas chromatography-mass spectrometry in selected ion monitoring mode (GC-MS-SIM)) of corn roots and air in shell vials for Example 18 of the Detailed Description. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 39 illustrates a glass bead bioassay apparatus with candidate chemical cues in syringes, and in particular, the bioassay apparatus using syringes as chemical sources in

Example 18 of the Detailed Description. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 40 illustrates a choice-test bioassay with headspace over germinating corn seeds versus air, and in particular, the number of western corn root worm (WCR) larvae attracted to a headspace over germinating corn seeds versus air in Example 18 of the Detailed Description. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 41 illustrates a choice-test bioassay with CO_2 (10 mmol/mol) versus air, and in particular, the number of western corn root worm larvae attracted to a CO_2 concentration of 10 mmol/mol versus air in Example 18 of the Detailed Description. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 42 illustrates concentrations of CO_2 (measured with GC-MS-SIM) of headspace over germinating corn seeds and air in syringes in Example 18 of the Detailed Description. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 43 illustrates concentrations of CO_2 (measured with GC-MS-SIM) of CO_2 (10 mmol/mol) and ambient air in syringes as described in Example 18. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 44 illustrates concentrations of CO_2 (measured with GC-MS-SIM) from syringes measured every 10 minutes with syringe pump turned on for Example 18.

Fig. 46 illustrations a choice-test bioassay with CO_2 in syringe sources to attract western corn root worm larvae in Example 18. Bars "I" represent standard errors.

Fig. 47 illustrates CO_2 concentrations (measured with GC-MS-SIM) of mixtures in syringes as discussed in Example 18.

Figs. 48-52 illustrate various choice-test bioassays with syringe sources containing 1 mmol/mol minimum CO_2 (Fig. 48), 2 mmol/mol minimum CO_2 concentration (Fig. 49), 5 mmol/mol minimum CO_2 concentration (Fig. 50), 10

mmol/mol minimum CO_2 concentration (Fig. 51), and 20 mmol/mol minimum CO_2 concentration (Fig. 52). In particular, Fig. 48 shows the preferences of western corn root worm larvae when exposed to 1 mmol/mol versus each of 1, 1.115, 1.125 and 1.5 mmol/mol minimum CO_2 concentration. Fig. 49 shows the preferences of western corn root worm larvae when exposed to 2 mmol/mol versus each of 2, 2.115, 2.25 and 2.5 mmol/mol minimum CO_2 concentration. Fig. 50 shows the preferences of western corn root worm larvae when exposed to 5 mmol/mol versus each of 5, 5.125, 5.25 and 5.5 mmol/mol minimum CO_2 concentration. Fig. 51 shows the preferences of western corn root worm larvae when exposed to 10 mmol/mol versus each of 10, 10.125, 10.25 and 10.5 mmol/mol minimum CO_2 concentration. Fig. 52 shows the preferences of western corn root worm larvae when exposed to 20 mmol/mol versus each of 20, 20.125, 20.25 and 20.5 mmol/mol minimum CO_2 concentration. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 53 illustrates a choice-test bioassay with shell vials containing different dilutions of carbonated water for attracting western corn root worm larvae as described in Example 18. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 54 illustrates concentrations (measured with GC-MS-SIM) of carbonated water dilutions in Example 18. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 55 illustrates a choice-test bioassay with syringe sources containing the headspace from different dilutions of carbonated water for Example 18 of the Detailed Description. Significant differences ($p < 0.05$) in attraction to a particular dose of CO_2 and its corresponding control are indicated by different lower case letters. Bars "I" represent standard errors (many are too small to be visible).

Fig. 56 illustrates CO_2 concentrations (measured with GC-MS-SIM) from the headspace over each dilution carbonated water. Significant differences ($p < 0.05$) in attraction to a particular dose of CO_2 and its corresponding control are indicated by

different lower case letters. Bars "I" represent standard errors (many are too small to be visible).

Fig. 57 illustrates a controlled choice-test bioassay with shell vials containing air on both sides for determining the attraction of western corn root worm larvae as described in Example 18. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard error.

Fig. 58 illustrates a controlled choice-test bioassay with shell vials containing carbonated water on both sides for thereby determining attraction of western corn root worm larvae to carbonated water as described in Example 18. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard error.

Fig. 59 illustrates a controlled choice-test bioassay with syringes containing air on both sides for determining the attraction of western corn root worm larvae as described in Example 18. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard error.

Fig. 60 illustrates a controlled choice-test bioassay with syringes containing CO_2 on both sides for determining the attraction of western corn root worm larvae to carbon dioxide as described in Example 18. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard error.

Fig. 61 shows a graph of concentrations of CO_2 (measured with SIM-CG-MS) from soil near growing corner root worms, soil alone and ambient air. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 62 shows a glass bead bioassay apparatus with candidate chemical cues in syringes for Example 19. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 63 illustrates a choice-test bioassay with syringe sources containing the headspace from germinating corn seedlings versus three different concentrations of CO_2 alone with larvae from a non-diapausing strain of western corn root worm for Example

19. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 64 illustrates a graph of CO_2 concentrations (measured with GC-MS-SIM) of headspace over germinating corn seeds and CO_2 mixtures and syringes for the choice-test with larvae from a non-diapausing strain of western corn root worm in Example 19. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 65 illustrates a graph of a choice-test bioassay with syringe sources containing the headspace from germinating corn seedlings versus three different concentrations of CO_2 alone with larvae from a diapausing strain of corn root worm in Example 19. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 66 illustrates a graph of the concentrations of the CO_2 (measured with GC-MS-SIM) of headspace over germinating corn seeds and CO2 mixtures in syringes for the choice-test with larvae from a diapausing strain of western corn root worm in Example 19. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 67 illustrates the graph of a choice-test bioassay with syringe sources containing the headspace from germinating corn seedlings versus three concentrations of CO_2 alone and the glass beads in the treatment side coated with the volatiles from the corn headspace for Example 19 described in the Detailed Description. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 68 illustrates a graph of the CO_2 concentrations (measured with GC-MS-SIM) of the headspace over germinating corn seeds and the CO_2 mixture in syringes for Example 19. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 69 shows a graph of a choice-test bioassay with syringe sources containing the atmosphere from soil containing growing corn plants versus three different

concentrations of CO_2 alone, and in particular, illustrates corn root worm larvae attracted to syringe sources containing the atmosphere from soil having growing corn plants versus the three different concentrations of CO_2 in Example 19. Standard differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors (for some treatments, the standard errors are too small to be visible on the graph).

Fig. 70 illustrates a graph of CO_2 concentrations (measured with GC-MS-SIM) of the corn/soil headspace and the CO_2 mixtures in syringes for Example 19. Standard differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors (for some treatments, the standard errors are too small to be visible on the graph).

Fig. 71 illustrates a western corn root worm larvae choice-test bioassay with soil removed from the roots of growing corn plants versus control soil for Example 19. Syringe sources on the treatment side contain 5 mmol CO_2 and the syringe sources on the control side contain three different concentrations of CO_2 alone. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors (some of which are too small to be visible).

Fig. 72 illustrates CO_2 concentrations (measured with GC-MS-SIM) of the CO_2 mixtures in the syringes for Example 19. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors (some of which are too small to be visible).

Fig. 73 illustrates a graph of a western corn root worm larvae choice-test bioassay with syringe sources containing the headspace from germinating corn seedlings that have been fed upon by western corn root worm larvae versus three different concentrations of CO_2 alone for Example 19. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 74 shows a graph of CO_2 concentrations (measured with GC-MS-SIM) of headspace over western corn root worm damaged corn seedlings and CO_2 mixtures in the syringes for Example 19. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors.

Fig. 75 shows a three petri dish test bioassay apparatus.

Fig. 76 shows a graph of a western corn root worm larvae choice-test bioassay with cryogenic collections of corn volatiles plus CO_2 versus CO_2 alone, using second-instar western corn root worm larvae. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors (for some CO_2 measurements, the standard errors are too small to be visible on the graph).

Fig. 77 illustrates a graph of CO_2 concentrations (measured with GC-MS-SIM) taken from inside the bioassay apparatus of Fig. 75. Significant differences ($p < 0.05$) are indicated by different lower case letters. Bars "I" represent standard errors (for some CO_2 measurements, the standard errors are too small to be visible on the graph).

Fig. 78 illustrates a graph of the number of western corn root worm larvae staying on paper with regard to corn, water, CGA plus corn, and CGA.

Figs. 79 and 80 show graphs that illustrate that corn root worm larvae can be controlled by providing a combination of attractant granules and the insecticide Thiamethoxam (also identified herein as "CGA-293343," or "CGA-293," or simply "CGA"), and in particular the graphs of these figures illustrate the results of western corn root worm larvae bioassays with and without the larvae being exposed to Thiamethoxam.

Fig. 81 illustrates the results of a trial conducted with CO_2 and feeding stimulants in combination with various rates of CGA-293343 (i.e., Thiamethoxam).

Fig. 82 illustrates a graph of corn root worm larvae (Diabrotica species) larval bioassay in soil tubs using various increasing amounts of Thiamethoxam.

Fig. 83 shows a graph of termite bait field test using Formulation 4 described in the Detailed Description herein below.

The paragraph beginning on page 7, lines 21 through 31 has been deleted and replaced with the following paragraph:

The present inventors incorporate by reference the following U.S. Patents in their entirety, such patents disclosing various compounds and formulations that are useful in conjunction with the present invention. U.S. Patent No. 5,338,551 filed July 2, 1992_to Lajoie; U.S. Patent No. 5,342,630 filed July 1, 1992 to Jones; U.S. Patent No. 5,346,704 filed August 11, 1993, to Lajoie; U.S. Patent No. 5,389,386 filed June 30, 1994 to

Winston et al., U.S. Patent Nos. 5,415,877 filed December 22, 1993, 5,424,270 filed July 7, 1993, 5,425,952 filed October 13, 1993, 5,432,146 filed December 20, 1993, 5,432,147 filed October 19, 1994, 5,432,148 filed December 7, 1994, 5,443,835 filed September 30, 1993 and 5,464,805 filed March 23, 1995 to Winston; U.S. Patent No. 5,468,715 filed June 2, 1993 to Joseph et al.; U.S. Patent Nos. 5,468,716 filed October 3, 1994, 5,496,568 filed June 26, 1995, 5,518,986 filed April 4, 1995, 5,518,987 filed October 3, 1995 and 5,583,089 filed May 9, 1995 to Winston.

The paragraph beginning on page 17, line 14 has been twice amended as follows:

Results:

1. Traps baited with dried spent brewer's grain (Formulation 1) were discovered sooner by termites than unbaited traps ([graph 1A]Fig. 4).
2. Termites consumed more cardboard from baited traps than from unbaited traps ([graph 1B]data collected, but not shown here).
3. Termites were found more often in the baited traps than the unbaited traps ([data collected, but not shown here]Fig. 5).

Graphs 1A and 2A on page 18 have been deleted.

Graph 3A on page 19 has been deleted.

The paragraph beginning on page 21, line 9 has been twice amended as follows:

Results:

1. The discovery time was shorter for the baited traps than for the unbaited traps ([graph 2A]Fig. 6).
2. More cardboard was consumed by termites in the baited traps for weeks 1 through 7 ([graph 2B]Fig. 7).
3. Termites were found more often in the baited traps than the unbaited traps (data collected, but not shown here).

Graphs 2A and 2B on page 22 have been deleted.

The paragraph beginning on page 24, line 6 has been twice amended as follows:

Results:

1. Traps baited with whole malted barley (Formulation 3) were not discovered sooner by termites than unbaited traps ([graph 3A]Fig. 8). Within 3 weeks, 10 baited and 10 unbaited traps had been discovered by termites.
2. Termites did not consume more cardboard from baited traps than from unbaited traps ([graph 3B]Fig. 9).
3. Termites were not found more often in the baited traps than the unbaited traps (data collected, but not shown here).

Graphs 3A and 3B on page 25 have been deleted.

The paragraph beginning on page 27, line 9 has been twice amended as follows:

Results:

1. Traps baited with coated sucrose pellets (Formulation 4) were not discovered sooner by termites than unbaited traps ([graph 4A]Fig. 10). Within 3 weeks, 10 baited and 10 unbaited traps had been discovered by termites.
2. Termites did not consume more cardboard from baited traps than from unbaited traps ([graph 4B]Fig. 11).
3. Termites were not found more often in the baited traps than the unbaited traps (data collected, but not shown here).

Graphs 4A and 4B on page 28 have been deleted.

The paragraph beginning on page 30, line 7 has been twice amended as follows:

Results:

1. Traps baited with dried spent brewer's grain (Formulation 1) were discovered sooner by termites than unbaited traps ([graph 5C]Fig. 12).
2. Termites consumed more wood from baited traps than from unbaited traps ([graph 5B]Fig. 13).

3. Termites were found more often in the baited traps than the unbaited traps ([graph 5A]Fig. 14).

Graphs 5A, 5B and 5C on page 31 have been deleted.

The paragraph beginning on page 33, line 10 has been amended as follows:

Results:

1. The discovery time was shorter for the baited traps than for the unbaited traps ([graph 6C]Fig. 15).
2. More wood was consumed by termites in the unbaited traps than from the baited traps for weeks 1 and 2, but more was consumed from the baited traps in weeks 3 and 4 ([graph 6B]Fig. 16).
3. Termites were found more often in the baited traps than the unbaited traps ([graph 6A]Fig. 17).

Graphs 6A, 6B and 6C on page 34 have been deleted.

The paragraph beginning on page 36, line 8 has been amended as follows:

Results:

1. The discovery time was shorter for the baited traps than for the unbaited traps ([graph 7C]Fig. 20).
2. More wood was consumed by termites in the baited traps than from the unbaited traps ([graph 7B]Fig. 19).
3. Termites were found more often in the baited traps than the unbaited traps ([graph 7A]Fig. 18).

Graphs 7A, 7B and 7C on page 37 have been deleted.

The paragraph beginning on page 39, line 22 has been amended as follows:

Results:

Formulation 1: Dried Spent Grain (0.5 g per 25 g soil): Significantly more termites were recovered from the treated cups than the controls for both species of termites ([treatment 1 of graphs 8A and B]Figs. 21 and 22, Formulation 1). The average CO_2 concentration at the start of the bioassay was 6.48 mmol per mol ([treatment 1 of graph 8C]Fig. 23, Formulation 1).

The paragraph beginning on page 39, line 28 has been amended as follows:

Formulation 2: Dried Ground Germinated Corn Seeds (0.5 g per 25 g soil): Significantly more termites were recovered from the treated cups than the controls for *Reticulitermes tibialis* ([treatment 2 of graph 8A]Fig 21, Formulation 2). Slightly more termites were recovered from the treated cups than the controls in tests with *Reticulitermes virginicus* ([treatment 2 of graph 8B]Fig. 22, Formulation 2). The average CO_2 concentration at the start of the bioassay was 5.55 mmol per mol ([treatment 2 of graph 8C]Fig. 23, Formulation 2).

The paragraph beginning on page 40, line 1 has been amended as follows:

Formulation 3: Whole, malted barley (0.5 g per 25 g soil): Significantly more termites were recovered from the treated cups than the controls for *Reticulitermes tibialis* ([treatment 3 of graph 8A]Fig. 21, Formulation 3). Slightly more termites were recovered from the treated cups than the controls in tests with *Reticulitermes virginicus* ([treatment 3 of graph 8B]Fig. 22, Formulation 3). The average CO_2 concentration at the start of the bioassay was 3.7 mmol per mol ([treatment 3 of graph 8C]Fig. 23, Formulation 3).

The paragraph beginning on page 40, line 9 has been amended as follows:

Formulation 4: Sucrose pellets with a light wax coating (0.5 g per 25 g soil): Significantly more termites were recovered from the treated cups than the controls for *Reticulitermes tibialis* ([treatment 4 of graph 8A]Fig. 21, Formulation 4). The average CO_2 concentration at the start of the bioassay was 5.22 mmol per mol ([treatment 4 of graph 8C]Fig. 23, Formulation 4).

The paragraph beginning on page 40, line 15 has been amended as follows:

Formulation 5: Effervescent tablets (Fizzies brand drink tablets, 0.25 g per 25 g soil): There was no significant difference in the number of termites recovered from the treatment and the control for *Reticulitermes tibialis* ([treatment 5 of graph 8A]Fig. 21, Formulation 5). The average CO_2 concentration at the start of the bioassay was 38.19 mmol per mol ([treatment 5 of graph 8C]Fig. 23, Formulation 5).

The paragraph beginning on page 40, line 21 has been amended as follows:

Formulation 6: Yeast Granules (made from corn flour, corn syrup, NYPD nutrient broth and baker's yeast, 0.5 g granules per 25 g soil): Significantly more termites were recovered from the treated cups than the controls for *Reticulitermes tibialis* ([treatment 6 of graph 8A]Fig. 21, Formulation 6). There was no significant difference in the number of termites recovered from the treatment and the control for *Reticulitermes virginicus* ([treatment 6 of graph 8B]Fig. 22, Formulation 6). The average CO_2 concentration at the start of the bioassay was 5.60 mmol per mol ([treatment 6 of graph 8C]Fig. 23, Formulation 6).

The paragraph beginning on page 40, line 31 has been amended as follows:

Formulation 7: Dry Baker's Yeast (0.25 g granules per 25 g soil): Significantly more termites were recovered from the treated cups than the controls for *Reticulitermes tibialis* ([treatment 7 of graph 8A]Fig. 21, Formulation 7). The average CO_2 concentration at the start of the bioassay was 5.93 mmol per mol ([treatment 7 of graph 8C]Fig. 23, Formulation 7).

The paragraph beginning on page 41, line 1 has been amended as follows:

Formulation 8: Potassium Bicarbonate, Fine Granules (0.25 g granules per 25 g soil): Significantly more termites were recovered from the treated cups than the controls for *Reticulitermes tibialis* ([treatment 8 of graph 8A]Fig. 21, Formulation 8). The average CO_2 concentration at the start of the bioassay was 16.71 mmol per mol ([treatment 8 of graph 8C]Fig. 23, Formulation 8).

The paragraph beginning on page 41, line 7 has been amended as follows:

Formulation 9: Clean Cracked Corn (sold as livestock feed) (0.5 g granules per 25 g soil): Significantly more termites were recovered from the treated cups than the controls for *Reticulitermes tibialis* ([treatment 9 of graph 8A]Fig. 21, Formulation 9). The average CO_2 concentration at the start of the bioassay was 4.21 mmol per mol ([treatment 9 of graph 8C]Fig. 23, Formulation 9).

The paragraph beginning on page 41, line 13 has been amended as follows:

Formulation 10: Ground Dry Corn Seed (0.5 g granules per 25 g soil): Significantly more termites were recovered from the treated cups than the controls for *Reticulitermes tibialis* ([treatment 10 of graph 8A]Fig. 21, Formulation 10). The average CO_2 concentration at the start of the bioassay was 4.48 mmol per mol ([treatment 10 of graph 8C]Fig. 23, Formulation 10).

The paragraph beginning on page 41, line 19 has been amended as follows:

Formulation 11: Ground Malted Barley (0.5 g granules per 25 g soil): There was no significant difference in the number of termites recovered from the treatment and the control for *Reticulitermes tibialis* ([treatment 11 of graph 8A]Fig. 21, Formulation 11). The average CO_2 concentration at the start of the bioassay was 8.31 mmol per mol ([treatment 11 of graph 8C]Fig. 23, Formulation 11).

The paragraph beginning on page 41, line 25 has been amended as follows:

Formulation 12: Baking Powder/Corn Syrup Granules (0.5 g granules per 25 g soil): These granules were made from double-acting baking powder and corn syrup. Significantly more termites were recovered from the treated cups than the controls for *Reticulitermes tibialis* ([treatment 12 of graph 8A]Fig. 21, Formulation 12). The average CO_2 concentration at the start of the bioassay was 18.86 mmol per mol ([treatment 12 of graph 8C]Fig. 23, Formulation 12).

The paragraph beginning on page 41, line 33 has been amended as follows:

Conclusions:

1. In laboratory behavioral bioassays, *Reticulitermes tibialis* exhibited attraction to formulations 1, 2, 3, 4, 6, 7, 8, 9, 10 and 12 ([treatments 1, 2, 3, 4, 6, 7, 8, 9, 10 and 12 of graph 8A]Fig. 21). In this particular context, *Reticulitermes tibialis* were not attracted to formulation 5 or 11.
2. In laboratory bioassays, *Reticulitermes virginicus* exhibited attraction to formulations 1, and 2 ([treatments 1 and 2 of graph 8B]Fig. 22). In this particular context, *Reticulitermes virginicus* were not attracted to formulation 3 or 4.
3. All the formulations contained elevated CO_2 by comparison with controls ([i.e., control treatment of graph 8C]Fig. 23).

Graphs 8A and 8B on page 43 have been deleted.

Graph 8C on page 44 has been deleted.

The paragraph beginning on page 46, line 15 has been amended as follows:

Results:

1. Termites were present in the baited traps for [all]5 out of 6 weeks of the experiment ([graph 9, the first bar for each week]Fig. 24).
2. Termites were present in the soil-only control traps during week 1, 4, and 6 ([graph 9, the second bar for each week]Fig. 24).
3. Termites were not present in any of the Dow control traps during the entire 6 weeks ([graph 9, no bar is present in the third position of each week]Fig. 24).
4. Feeding on the wood strips was heavier in the baited traps and in the soil-only control traps than in the unmodified Dow Sentricon Bait Stations (data collected, but not shown).

Graph 9 on page 48 has been deleted.

The paragraph beginning on page 50, line 18 has been amended as follows:

Results:

1. Termites were present in the baited traps for weeks 1 and 2 of the experiment ([Graph 10]Fig. 25).

2. Termites were present in the soil-only control traps during week 3 ([Graph 10]Fig. 25).

3. Termites were present in the Dow control traps during weeks 2 and 5 ([Graph 10]Fig. 25).

Graph 10 on page 51 has been deleted.

The paragraph beginning on page 53, line 17 has been amended as follows:

Results:

4. Termites were present in the baited traps for weeks 1 through 4 of the experiment ([Graph 11]Fig. 26).
5. Termites were present in the soil-only control traps during all 6 weeks of the experiment ([Graph 11]Fig. 26).
6. Termites were present in the Dow control traps during weeks 1 and 2 ([Graph 11]Fig. 26).

Graph 11 on page 54 has been deleted.

The paragraph beginning on page 57, line 4 has been amended as follows:

Results:

1. *Reticulitermes tibialis* was attracted to 5, 10, and 20 mmol per mol CO_2.) (graph 12B). *R. tibialis* demonstrated the best attraction to 5 mmol per mol CO_2 ([graph 12B]Fig. 28).

2. *Reticulitermes flavipes* was attracted to 2, 5 and 10 mmol per mol CO_2. *R. flavipes* was most attracted to 10 mmol per mol ([graph 12A]Fig. 27).

3. *Reticulitermes virginicus* was attracted to 5, 10, 20 and 50 mmol per mol CO_2. *R. virginicus* demonstrated best attraction to 10 mmol per mol CO_2 (Fig. 29).

Graphs 12A and 12B on page 58 have been deleted.

Graphs12C and 12D on page 59 have been deleted.

The paragraph beginning on page 63, line 8 has been amended as follows:

Results:

6. For the Dow wood, termites were observed feeding on the charred Dow wood, and were not observed feeding on the uncharred Dow Wood.

7. Examination of the charred and uncharred Dow Wood at the end of the experiment indicated that most of the feeding had occurred on the charred Dow Wood ([Graph 14]Fig. 31).

8. Insects that had fed on the charred Dow Wood had black material inside the hindgut clearly visible through the abdomen, confirming that they fed on this burnt wood.

9. For the Ponderosa pine, termites were never observed feeding on the charred Ponderosa pine, and fed only on the uncharred Ponderosa pine.

10. Examination of the charred and uncharred Ponderosa pine at the end of the experiment indicated that all of the feeding had occurred on the uncharred Ponderosa pine ([Graph 14]Fig. 31).

Graph 14 on page 64 has been deleted.

The paragraph beginning on page 66, line 16 has been amended as follows:

Results:

3. Termites were concentrated near the Dow wood impregnated with Formulation 1 (dried spent brewer's grain), and were observed near the Dow wood piece that was untreated ([Graph 15]Fig. 33).

4. Extensive feeding damage by termites was observed on the Dow wood impregnated with Formulation 1 (dried spent brewer's grain), but no feeding damage was observed on the Dow wood piece that was untreated ([Graph 15]Fig. 32).

Graph 15 on page 67 has been deleted.

The paragraph beginning on page 77, line 32 has been amended as follows:

Bioassay Apparatus. The choice-test bioassay apparatus ([graph 18-1A]Fig. 34) was constructed from a glass Y-tube filled with glass beads to simulate the thigmotactic cues of the soil environment that are ordinarily encountered by western corn root worm larvae. The glass Y-tube was fabricated by a local glassblower (9.5 mm inside diameter, 60° angles, with each branch 3 cm long), and clamped to a ring stand with 2 branches of the "Y" facing down. A glass connection tube (4 cm long, 0.5 cm diameter) with a piece of vinyl screen (2.5-mm mesh) held over 1 end by a 0.5-cm section of Teflon tubing (6 mm inside diameter) was inserted snugly into the end of each of the arms of the Y-tube to support the glass beads. Glass beads (3 mm, cat. no. 11-312A, Fisher Scientific, Pittsburgh, PA) were poured into the top of the Y-tube, filling the entire apparatus to within 0.5 cm of the top (250 beads). A 5-mm NMR tube cap (cat. no. 100-0050, Drummond Scientific, Broomall, PA) was fitted into the other end of each glass connection tube, with a hole to allow snug insertion of a 20-cm piece of slender Teflon tubing (0.8 mm inside diameter) for introduction of volatile chemical cues into each arm of the bioassay apparatus. Two techniques were used to introduce candidate chemical cues into the 2 arms of the apparatus: 1 used shell vials as chemical sources, and the other used syringes as chemical sources.

The paragraph beginning on page 78, line 25 has been amended as follows:

Shell Vial Sources. In this 1st approach ([graph 18-1A]Fig. 34), two 35-ml polyethylene syringes (cat. no. 106-0490, Sherwood Medical, St. Louis, MO) were filled with ambient air, and the air was pumped through shell vials containing candidate chemical cues. Glass shell vials (4 ml) with polyethylene caps were used (cat. no. B7785-1, Baxter Healthcare, McGaw Park, IL). A 35-ml syringe was snugly connected with slender Teflon tubing (20 cm) to a hole in the cap of the shell vial. A 2nd piece of slender Teflon tubing was used to connect the shell vial to 1 arm of the bioassay apparatus. The 2 syringes used for each bioassay were connected to a syringe pump (Sage Model 355, Fisher Scientific, Pittsburgh, PA) that provided an airflow through each shell vial containing a candidate chemical treatment, and subsequently into a choice arm of the bioassay apparatus. For the shell vial sources of candidate chemical compounds, the shell vial containing either a

carbonated water dilution or a corn seed or cut corn roots was left open for 5 min to allow the gas concentrations to reach equilibrium. The vial was capped, and the syringe pump was started, providing an airflow of 1.0 ml/min from each syringe.

The paragraph beginning on page 79, line 14 has been amended as follows:
Syringe Sources. In this 2nd approach ([graph 18-2A]Fig. 39), 35-ml polyethylene syringes were filled directly with candidate chemical cues (such as the headspace from a container of germinating corn, a sample of CO_2 mixed with air, or the headspace from a bottle of carbonated water). Each of the 2 syringes was connected with slender Teflon tubing to 1 arm of the bioassay apparatus. The 2 syringes used for each bioassay were connected to a syringe pump that was adjusted to provide an airflow of 1 ml/min from each syringe.

The paragraph beginning on page 79, line 24 has been amended as follows:
Bioassay Procedure. For bioassays, 20 newly hatched 1st instars (0--12 hours old) were collected from tubs containing eggs in soil (by using a camel's hair brush) and placed in a covered 5-mm NMR cap with 2 holes (1 mm diameter) drilled in the bottom ([graphs 18-1A]Fig. 34 and [18-2A]Fig. 39). These holes were temporarily plugged with a piece of wire bent into a U-shape. The open end of the NMR cap was sealed with a small square of cellophane held in place with a plastic tube (a piece of soda straw) that fit snugly over the open end. The Y-tube apparatus was assembled and filled with glass beads and the appropriate treatment and control sources (shell vials or syringes) were connected to the arms of the Y-tube. The syringe pump was set to provide a flow of 1 ml/min and turned on. A flow meter was used to verify that the flow exiting the top of the Y-tube was 2 ml/min, confirming the flow of volatiles through the apparatus and verifying that there were no leaks in the connections. If the flow was inadequate, all connections were inspected and secured, and the flow was rechecked. After 3 min of pumping, the wire piece blocking the 2 holes in the NMR cap was removed and the cap was placed in the top of the Y-tube, allowing larvae to crawl out through the 2 holes and down into the glass beads. Bioassays were conducted for 30 min. The entire Y-apparatus was disassembled, and the positions of the larvae were recorded. Larvae were not reused in

subsequent tests. Before each test, all glass parts of the apparatus were washed with soap and water, rinsed with water, and heated at 80°C in an oven for 30 min.

The paragraph beginning on page 81, line 20 has been amended as follows:

Corn Headspace Bioassay. Using the syringe source technique, the headspace over germinating corn seedlings was tested to determine the larval response to corn volatiles in the glass bead apparatus. Washed corn seeds were spread on moistened germination paper inside a covered plastic container (30 by 15 cm) and germinated for 3 days to allow volatile corn compounds to be produced. A 35-ml polyethylene syringe was filled with the headspace containing these volatile compounds by means of a 25 cm length of slender Teflon tubing inserted into a hole drilled into the cover. The control syringe was filled from an identical plastic container containing only moistened germination paper. The CO_2 concentrations of the syringes were determined by using GC-MS-SIM before each bioassay.

The paragraph beginning on page 87, line 13 has been amended as follows:

Germinating Corn Seed Versus Air Choice Test. In experiments using shell vial sources, significantly more western corn root worm larvae ($P < 0.05$) were attracted to the side containing the germinating corn seed than to the control side ([graph 18-1B]Fig. 35). The CO_2 concentration of the headspace above the germinating corn seed was 6.04 ± 0.83 (mean ± SEM) mmol/mol, and the CO_2 concentration of the headspace on the control side was 0.99 ± 0.08 mmol/mol ([graph 18-1D]Fig. 37).

The paragraph beginning on page 87, line 22 has been amended as follows:

Cut Corn Roots Versus Air Choice Test. Significantly more western corn root worm larvae ($P < 0.05$) were attracted to the side containing cut corn roots than to the control side ([graph 18-1C]Fig. 36). The CO_2 concentration of the headspace above germinating corn roots was 2.97 ± 0.15 mmol/mol, and the CO_2 concentration of the headspace on the control side was 0.99 ± 0.08 mmol/mol ([graph 18-1E]Fig. 38).

The paragraph beginning on page 87, line 30 has been amended as follows:

Corn Headspace Bioassay. In bioassays with syringe sources, significantly more western corn root worm larvae ($P < 0.05$) were attracted to the side containing the headspace over germinating corn seeds than to the control side ([graph 18-2B]Fig. 40). The CO_2 concentration of the headspace above the germinating corn seeds was 5.38 ± 0.45 mmol/mol, and the CO_2 concentration of the headspace on the control side was 1.14 ± 0.13 mmol/mol ([graph 18- 2D]Fig. 42).

The paragraph beginning on page 88, line 7 has been amended as follows:

CO_2 Bioassay. In a preliminary experiment to verify attraction of the larvae to syringe sources containing CO_2, significantly more western corn root worm larvae ($P < 0.05$) were attracted to the side containing 10 mmol/mol CO_2 (10.43 ± 0.18 mmol/mol) than to the control side ([graph 18-2C]Fig. 41). The CO_2 concentration of the control side was 0.93 ± 0.04 mmol/mol ([graph 18-2E]Fig. 43).

The paragraph beginning on page 88, line 14 has been amended as follows:

Consistency of CO_2 Delivery. The release of CO_2 from syringe sources was highly consistent over the course of a 30-min bioassay interval ([graph 18-3A]Fig. 44). The release of CO_2 from shell vial sources was consistent over the course of a 30 min bioassay interval for the lower doses tested (0, 1, 3, and 10%), but not for the higher doses (30 and 100%) ([graph 18-3B]Fig. 45).

The paragraph beginning on page 88, line 21 has been amended as follows:

CO_2 (Dose—Response). The larvae were attracted to a wide range of CO_2 concentrations. The lowest concentration of CO_2 that was attractive to the larvae ([Graph 18-4]Figs. 46 and 47) was 1.34 ± 0.05 mmol/mol (10 µl of CO_2 added to syringe) ($P < 0.05$), where the control CO_2 concentration was 0.91 ± 0.03. The highest dose to which the larvae were attracted was 85.60 ± 1.20 mmol/mol. (3 ml of CO_2 added to syringe). They were not attracted to 300 mmol/mol (10 ml of CO_2 added to syringe) or 900 mmol/mol (30 ml of CO_2 added to syringe) concentrations ([Graph 18-4]Fig. 46).

The paragraph beginning on page 88, line 31 has been amended as follows:

CO_2 Selective Response. Significantly more larvae were attracted ([graph 18-5]Fig. 48) to the higher CO_2 concentration for 1 versus 1.50 mmol/mol, for 2 versus 2.50 mmol/mol (Fig. 49), for 5 versus 5.50 mmol/mol (Fig. 50), and for 10 versus 10.50 mmol/mol(Fig. 51), but no difference in attraction was observed for 20 versus 20.50 mmol/mol of CO_2 (Fig. 52). When smaller CO_2 differences were tested (0.25 mmol/mol), fewer significant differences were observed. Larvae were more attracted to the higher CO_2 concentration for 1 versus 1.25 mmol/mol(Fig. 48), and for 2 versus 2.25 mmol/mol(Fig. 49), but no difference in attraction was observed for 5 versus 5.25 mmol/mol(Fig. 50), for 10 versus 10.25 mmol/mol(Fig. 51), or for 20 versus 20.25 mmol/mol (Fig. 52). At the smallest CO_2 difference tested, significantly greater attraction was observed to 1.125 mmol/mol than to 1 mmol/mol (the actual CO_2 concentration of the treatment side was 1.18 ± 0.05 mmol/mol, and the actual control concentration was 1.06 ± 0.05 mmol/mol), but no difference in attraction was observed in any of the tests at higher concentrations. In control tests with equal amounts of CO_2 on both sides (1, 2, 5, 10, or 20 mmol/mol), no significant differences in attraction were observed.

The paragraph beginning on 89, line 21 has been amended as follows:

Diluted Carbonated Water (Dose—Response). In Bioassays with shell vial sources, the 3% dilution of carbonated water was the lowest attractive dose ([Graph 18-6-A]Fig. 53) ($P < 0.05$). The larvae responded optimally to the 10% dilution of the carbonated water, and all concentrations (3, 10, 30, and 100%) greater than the 1% dilution were significantly more attractive ($P < 0.05$) than the control (distilled water). The CO_2 concentration of the control (distilled water) was 1.42 ± 0.08 mmol/mol, and the concentration of the 1% dilution was 1.48 ± 0.10 mmol/mol ([Graph 18-6-B]Fig. 54). The CO_2 concentration of the 3% dilution was 1.91 ± 0.09 mmol/mol, and the 10% dilution produced 2.55 ± 0.12 mmol/mol of CO_2. The 30% dilution produced 6.06 ± 0.36 mmol/mol of CO_2, and the 100% carbonated water produced 24.49 ± 0.22 mmol/mol of CO_2.

The paragraph beginning on page 90, line 3 has been amended as follows:

Shell Vial Control Bioassays. There was no significant difference ($P > 0.05$) between the numbers of larvae moving to the right and to the left when no chemical treatment was present on either side of the choice test. Western corn root worm larvae moved slowly through the glass beads, and after 30 minutes, equal numbers of larvae were found in the right and left arms of the Y-tube. The CO_2 concentration in the shell vials containing ambient air was 0.99 ± 0.08 mmol/mol. Larvae also chose equally between the right and left sides of the choice test when carbonated water was present on both sides in shell vial sources ($P > 0.05$)[ ]. Each shell vial of carbonated water produced 24.49 ± 1.31 mmol/mol of CO_2.

The paragraph beginning on page 93, line 5 has been amended as follows:

In syringe source bioassays, the larval response to CO_2 increased with each increase in the amount of CO_2 added to the syringe mixtures (1, 3, 10, ... µl of CO_2) ([Graph 18-4]Fig. 47) when the control side contained 1.00 ± 0.05 to 85.6 ± 1.20 mmol/mol. The most attractive concentrations of CO_2 were 2.51 ± 0.13 mmol/mol (30 µl of CO_2 added to the syringe), and 4.20 ± 0.21 mmol/mol (100 µl added to the syringe). This range of attractive concentrations of CO_2 is consistent with the level of CO_2 produced by a germinating corn seed in a shell vial (6.04 ± 0.83 mmol/mol), cut corn roots in a shell vial (2.97 ± 0.15 mmol/mol), and also with the concentration found in the headspace above 50 g (dry wt) of germinating corn seeds (5.38 ± 0.45 mmol/mol). The concentration of CO_2 measured in soil hear the roots of growing corn plants (4.36 ± 0.31 mmol/mol) was consistent with the optimally attractive range of concentrations (2.51 ± 0.13 to 4.20 ± 0.21 mmol/mol), indicating that the bioassay technique produced gradients of CO_2 similar to those that are behaviorally active in the soil.

The paragraphs beginning on page 96, line 4 through page 98, line 7 have been deleted.

Graphs 18-1A, 18-1B, 18-1C, 18-1D and 18-1E on page 99 have been deleted.

Graphs 18-2A, 18-2B, 18-2C, 18-2D and 18-2E on page 100 have been deleted.

Graph 18-3 on page 101 has been deleted.

Graphs 18-4A and 18-4B on page 102 have been deleted.

Graphs 18-5A, 18-5B and 18-5C on page 103 have been deleted.

Graphs18-5D and 18-5E on page 103A have been deleted.

Graphs 18-6A and 16-6B on page 104 have been deleted.

Graphs 18-7A and 18-7B on page 105 have been deleted.

Graphs 18-8A, 18-8B, 18-8C and 18-8D on page 106 have been deleted.

Graph 18-9 on page 107 has been deleted.

The paragraph beginning on page 112, line 1 has been amended as follows:
Bioassay Procedure. All bioassays were choice tests conducted using a vertical glass "Y" tube apparatus filled with 3-mm glass beads (Bernklau and Bjostad 1998) ([graph 19-1-A]Fig. 62). Volatile compounds were prepared in 35-ml polyethylene syringes (cat no. 106-0490, Sherwood Medical, St. Louis, MO) and a syringe pump (Sage Model 355, Fisher Scientific, Pittsburgh, PA) was used to provide, slow (1 ml per min) consistent delivery of the compounds into each choice arm of the bioassay apparatus. Twenty newly-hatched larvae (less than12-hours-old) were used for each bioassay. Non-diapausing larvae were used for all experiments unless otherwise indicated below. For each choice test a minimum of 10 replicates were conducted.

The paragraph beginning on page 119, line 23 has been amended as follows:

Petri Dish Bioassay. The attraction of western corn root worm larvae to volatile compounds other than CO_2 was previously reported by our laboratory on the basis of

experiments conducted using a petri dish bioassay apparatus (Hibbard and Bjostad 1988, 1989; Bjostad and Hibbard 1992). The results we have now obtained using the Y-tube apparatus conflict with these reports, and we conducted experiments using the petri dish bioassay apparatus to re-investigate the results reported previously (Hibbard and Bjostad 1988). Three plastic petri dishes (5 cm diameter) were connected with 2-cm lengths of Teflon tubing (10 mm diameter) inserted into holes in their sides ([graph 19-6A]Fig. 75). Holes were cut with a brass tube attached to a soldering iron. The bottoms of the 2 end dishes had 12 mm holes melted through their centers. The apparatus was supported on a ring stand. Cryogenic collections of corn seedlings were prepared as described above, except that no filter paper strip was placed in the bottom of the collection tube. When the tube had warmed to room temperature, it was flushed for 10 sec with 100% CO_2 from a tank at 4 psi, then inverted for 30 sec. For the control side, an empty sample tube was similarly flushed with CO_2 for 10 sec and inverted for 30 sec. Immediately after inversion for 30 sec, each tube was capped and allowed to sit for 15 min to allow the CO_2 to equilibrate. The petri dish apparatus was assembled and a bubble level was used to insure that the apparatus was not tilted to 1 side or the other. When GC-MS-SIM measurements indicated that the CO_2 concentrations in the tubes were equal (measured through pinholes in the caps from within 5 cm of the top of the tubes) both tubes were connected with a Teflon connector to the holes in the bottom of the end dishes of the bioassay apparatus. The covers were placed on all 3 dishes and the apparatus was allowed to sit for 5 min to allow volatile compounds to begin diffusing. After 5 min, 10 2nd-instar western corn root worm larvae were placed in the center of the middle Petri dish and the cover was replaced. The number of larvae in each of the chambers and in the sample tubes was recorded every 5 min for a total of 30 min. All bioassays were conducted in dim lighting. CO_2 concentrations within the 3-petri-dish apparatus were measured by removing samples through a pinhole in each Teflon connector. A 5-µl sample was taken from each side every 60 sec throughout the 30-minute period and analyzed using GC-MS-SIM. Twenty replicates of the behavioral bioassay were conducted, and CO_2 measurements were taken for 8 replicates.

The paragraph beginning on page 121, line 26 has been amended as follows:

Corn Headspace Versus CO_2. For the non-diapausing strain of western corn root worm, significantly more larvae ($P < 0.05$) chose the corn headspace side ([graph 19-1B]Fig. 63) when the control syringe contained ambient room air. There was no significant difference between the number of larvae that chose the corn headspace and larvae that chose the control when the CO_2 concentrations were the same ([graph 19-1C]Fig. 64). Larvae chose the control side significantly more often when the control contained twice the concentration of CO_2 as the corn headspace.

The paragraph beginning on page 122, line 4 has been amended as follows:

Corn Headspace Versus CO_2 with Diapausing Larvae. Similar results were obtained with the diapausing strain of western corn root worm. Significantly more of the larvae ($P < 0.05$) chose the corn headspace side when the control syringe contained ambient room air ([graph 19-1D]Fig. 65). There was no significant difference between the number of larvae that chose the corn headspace and larvae that chose the control when the CO_2 concentrations were the same ([graph 19-1E]Fig. 66). Larvae chose the control side significantly more often when the control contained twice the concentration of CO_2 as the corn headspace.

The paragraph beginning on page 122, line 15 has been amended as follows:

Corn Headspace-Coated Glass Beads Versus CO_2. Significantly more larvae ($P < 0.05$) chose the corn-coated beads and corn headspace side of the bioassay when the control side contained ambient room air ([graph 19-2A]Fig. 67). There was no significant difference between the number of larvae that chose the corn headspace and larvae that chose the control when the CO_2 concentrations were the same ([graph 19-2B]Fig. 68). Larvae chose the control side significantly more often when the control contained twice the concentration of CO_2 as the corn headspace.

The paragraph beginning on page 122, line 25 has been amended as follows:

Headspace from Corn in Soil Versus CO_2. The larvae chose the corn-coated beads and corn headspace significantly more often ($P < 0.05$) when the control syringe contained

ambient room air ([graph 19-3A]Fig. 69). Significantly more larvae chose the CO_2 control over the corn headspace when the CO_2 concentrations were the same ([graph 19-3B]Fig. 70). Larvae chose the control side significantly more often when the control contained twice the concentration of CO_2 as the corn headspace.

The paragraph beginning on page 123, line 1 has been amended as follows:
Soil Bioassay. The larvae chose the soil from growing corn roots significantly more often ($P < 0.05$) ([graph 19-4A]Fig. 71) when the syringe on the corn side contained a higher concentration of CO_2 than the control side ([graph 19-4B]Fig. 72). There was no significant difference between the number of larvae that chose the corn headspace and larvae that chose the control when the CO_2 concentrations were the same. Larvae chose the control side more often when the control contained twice the concentration of CO_2 as the treatment side.

The paragraph beginning on page 123, line 11 has been amended as follows:
Corn Headspace From Western Corn root worm-Damaged Corn Versus CO_2. The larvae chose the headspace from damaged corn seedlings significantly more often ($P < 0.05$) when the control syringe contained ambient room air ([graph 19- 5A]Fig. 73). Significantly more larvae chose the CO_2 control over the corn headspace when the CO_2 concentrations were the same ([graph 19-5B]Fig. 74). Larvae chose the control side significantly more often when the control contained twice the concentration of CO_2 as the corn headspace.

The paragraph beginning on page 124, line 3 has been amended as follows:
Petri Dish Bioassay. There was no significant difference between the number of larvae that chose the cryogenic collection of corn volatiles and larvae that chose the control ($P > 0.05$) in the petri dish bioassay ([graph 19-6B]Fig. 76). During the 30 min that the bioassay was run, there was no significant difference between the CO_2 concentration on the corn side and the control side inside the petri dish apparatus ([graph 19-6C]Fig. 77).

The paragraphs beginning on page 128, line 1 through page 130, line 6 have been deleted.

Graphs 19-1A, 19-1B, 19-1C, 19-1D and 19-1E on page 131 have been deleted.

Graphs 19-2A and 19-2B on page 132 have been deleted.

Graphs 19-3A and 19-3B on page 133 have been deleted.

Graphs 19-4A and 19-4B on page 134 have been deleted.

Graphs 19-5A and 19-5B on page 135 have been deleted.

Graphs 19-6A, 19-6B and 19-6C on page 136 have been deleted.